CALIFORNIA TRANSPORTATION PLAN 2025

# *Where do we go from here?*

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The California Department of Transportation, in partnership with regional and local agencies, is developing a 20 - year state transportation plan. The California Transportation Plan (CTP) will provide strategies for meeting our future transportation needs and will identify priorities for spending our limited transportation funds. The plan will provide a vision for California's transportation system. The Goals listed below were developed for consideration in the development of the CTP.

- Increase public safety and preserve the transportation system
- Improve mobility
- Maintain California's economic prosperity
- Maximize efficient fuel and energy usage
- Provide viable transportation choices
- Provide an affordable, accessible transportation system that serves all Californians
- Enhance the environment and reflect community values

The discussion papers based upon these Goals are designed to stimulate public discussions about California's future transportation needs and potential implementing strategies. In order to provide a transportation system that meets your needs, we need your ideas. Whether or not you are able to attend the public workshops, your comments and concerns will influence California's transportation priorities.

## *Tell us…What's Important to You?*

**Please send your comments, by September 14th, 2001, to:**

E-mail: **California.Transportation.Plan@dot.ca.gov**

Or

Postal: **Department of Transportation, Mail Station 32**
**Division of Transportation Planning**
**Office of State Planning**
**P.O. Box 942874**
**Sacramento, CA 94274-0001**

## INCREASE PUBLIC SAFETY

Transportation safety addresses the safety of travelers on all system modes, vehicles, trains, planes, ships, bicycles, and pedestrians. It includes system infrastructure and operational design, and the operating condition of public, commercial and private facilities and vehicles. Safety is measured by collision statistics including fatalities, injuries and property damage. When considering personal safety, the system provider also needs to consider the user's "perceived safety" or how safe people feel.

*Background*

The California Highway Patrol prepares an Annual Report of Fatal and Injury Motor Vehicle Traffic Collisions. This report documents motor vehicle traffic collision reports received from local police and sheriff jurisdictions and from California Highway Patrol field offices. Included in the 1999 report are the following statistics:

- During 1999, California had a total of 481,764 traffic collisions: 3,144 fatal, 188,730 injury and 289,890 property damage only.
- A traffic collision was reported every 1 minute and 5 seconds.
- One person was killed every 2 hours and 28 minutes, and one person injured every 1 minute and 49 seconds.
- 38 percent of fatal traffic crashes involved alcohol.
- Speed was indicated as the Primary Collision Factor in 27% of the fatal and injury collisions.
- Children under the age of 15 accounted for 29% of pedestrian and bicycle victims (victims killed or injured).
- 40% of the 15,034 pedestrian victims were in a crosswalk.
- Of the licensed drivers in California, 22% were under 30 years of age; however, drivers under 30 years of age comprised 35% of all drivers in fatal and injury collisions.
- California has not had a day without a fatality since May 1, 1991.

Safety is also a concern of the transit provider and user. Safety and perceived safety of the vehicles, and personal safety on-board the vehicles and at the transit stations influence overall transit usage and hours of usage.

The substantial increases of goods movement via trucks and rail have increased the traffic safety concerns. Trucks of all types were involved in 10% of the collisions resulting in fatalities and 4.6% of those resulting in injuries in 1999.

The 1998 Transportation Equity Act for the 21st Century (TEA 21), addresses system safety for motorized and non-motorized users.

*Issues*

- Transportation system safety and security impacts all modes of transportation.
- A substantial number of collisions are caused by driver error or driving under the influence of drugs and/or alcohol.
- The changing demographics of California's population must be considered in system design and transportation choices to enhance safety and security.
- Local streets and roads are often designed to facilitate the movement of motorists at the expense of bicyclists and pedestrians.
- Public and privately owned commercial transit vehicles may not be maintained in optimum operating condition.
- Transit stations in remote or less populated areas and lacking safety features such as lighting, shelters and monitoring devices increase concerns for personal safety.
- Rail accidents with automobiles and pedestrians have become more frequent in the last 10 years.
- Emergency response time to accidents can increase due to traffic congestion or remote location.

*Strategies*

- Make communities safer for walking and bicycling by adding design elements that consider pedestrians and bicyclists, such as traffic calming measures, marked designated walkways and bikeways, and adequately timed signal lights.
- Encourage public and private sector deployment of Intelligent Transportation Systems (ITS) to improve vehicle safety and control. Examples include collision avoidance systems, night vision enhancements, automated collision notification systems, Global Positioning System (GPS), and driver attentiveness monitoring and stimulus systems.
- Address safety concerns on public transit by using security staff and/or monitoring devices onboard vehicles and at stations, emergency communication systems and onboard vehicle diagnostics systems.
- Improve at grade railroad and street crossing safety features, including grade separations when feasible and warranted.
- Develop exclusive truck lanes on high volume routes, to reduce accidents between freight trucks and passenger vehicles.

## PRESERVE THE TRANSPORTATION SYSTEM

System preservation includes the maintenance, rehabilitation and upkeep of the physical parts of the transportation system, including streets, roads, highways, bridges, rail, bicycle, pedestrian and public transit facilities, airports and seaports. It also involves maintaining signs, electrical devices, the roadside, and litter and graffiti removal.

*Background*

California's existing transportation system has an estimated value of over $3 trillion. This includes railway networks, seaports, airports, transit systems, and over 160,000 miles of state and local roads. The aging of the current transportation system requires substantial investment to maintain operational standards. For example, the California Department of Transportation invests over $500 million annually for the maintenance, reconstruction and rehabilitation of approximately 50,000 lane miles of roads.

System maintenance has become more sophisticated and more complex through the use of advanced technologies that enhance system operation and increase carrying capacity on highways. New technologies require new skills to operate and maintain the electronic monitoring and communication systems. At the same time, advanced technologies, materials, construction techniques and equipment can extend the life of the facility and increase maintenance crew and driver safety in and around construction zones.

*Issues*

- Increasing demands will be placed on our aging transportation system to carry more people, goods and services throughout California.
- Much of the transportation infrastructure, which was built over 30 years ago, is in need of repair. For example, 24 percent of the State Highway System is currently in need of rehabilitation.
- Backlogs in deferred maintenance have led to capacity reductions, especially for local jurisdictions. The Commission on Building for the 21st Century found that 60% of the county roads are in poor condition.
- Local jurisdiction's general fund usually provides funding for maintenance and repair for local streets and roads. The changing tax structure has eroded local general funds and there are increasingly competing needs for the limited funds available.
- Transportation construction and maintenance activities frequently result in temporary lane closures or capacity reductions on heavily used streets, roads and highways – resulting in additional congestion.
- To minimize service interruptions during peak usage, jurisdictions have initiated nighttime maintenance programs, which require substantially more resources to ensure worker and driver safety.

- Public transit providers' operating budgets make it difficult to maintain vehicles and facilities in optimal operating condition.
- Cost of repairs and retrofits after an earthquake, flooding, landslides and fires have consumed considerable resources that otherwise could have been directed to needed preservation work.

The 1998 Transportation Equity Act for the 21st Century (TEA-21) and state statutes address maintenance and preservation of the highway system.

*Strategies*

- Use new materials, products and building techniques to increase the longevity of physical structures and decrease operating and maintenance costs.
- At the local level, coordinate road maintenance and rehabilitation with utility construction and maintenance thus sharing the cost of road repair and minimizing associated congestion and driver inconvenience.
- Use maintenance and rehabilitation projects as an opportunity to deploy advanced transportation technology elements thereby combining funding mechanisms.

## IMPROVE MOBILITY

The ability to transport people and goods efficiently in and through California is impacted by congestion, and uncoordinated management and operation of the transportation system. On a statewide average, approximately one-half of road congestion delay is due to routine conditions at a specific time and location. The other half of congestion is due to specific events, such as accidents, special events, or construction. Factors that influence road congestion include the number of people and vehicles in California, and the number of miles traveled.

*Background*

California's population is projected to increase from 34 million people in 2000 to 45 million people in 2020. During the same time period, registered vehicles in California are expected to increase from 23 million vehicles to 34 million vehicles, while vehicle miles traveled will increase from approximately 300 billion miles to over 400 billion miles, with current travel behavior. Over the next ten years, the consumption of goods is expected to increase as much as 25 percent. Simply building new roadway facilities will not provide for the anticipated demand, and will become less feasible due to environmental and physical limitations. We must manage the system more efficiently to transport more people and goods.

While roads may provide the most obvious example of congestion, transit routes, rail lines, and airports also experience delays when passenger demand exceeds the capacity of the facility. Given the expected population and travel growth in California, the efficient management of roads, highways, rail lines, airports, ports, inter-modal and transit facilities must be considered to optimize the ability to travel in and through California.

*Issues*

- As our population grows our transportation facilities will become more congested, with a greater likelihood of delays.
- While transportation facilities are likely to be busiest during peak-travel times or rush hours, as our population increases and work hours are more varied, transportation facilities will become congested more frequently and at less predictable times.
- The resources used in traffic delays are significant. In 1998, motorists on California's highways spent more than 800,000 hours each day in traffic jams, using 1.4 million excess gallons of fuel daily.
- State road congestion levels in the late 1990s increased at an annual rate of 10 percent. Over 80 percent of all statewide congestion delays occur in the San Francisco metropolitan area, Los Angeles, Orange and Ventura counties. The Sacramento metropolitan area had the largest annual rate increase of congestion

delay at 53 percent, followed by San Bernardino and Riverside counties with a 30 percent annual increase.

- High Occupancy Vehicle (HOV) lanes have been criticized for being under utilized and reducing the number of lanes available for all drivers to access.
- Southern California passenger demand in 2020 is predicted to exceed current airport capacity by more than 50 percent.
- Travelers have limited access to real-time information about transportation options or routes that could reduce their travel time.
- Since intelligent transportation information technology is not readily available, drivers must rely on their own skills and senses to avoid hazards and accidents.
- Lack of convenient transportation options, inadequate facilities, and multiple trip destinations encourage people to drive, instead of using other transportation options.
- Regionally implemented intelligent transportation technology may be discontinued at local boundaries, causing disruptions to travelers and mobility.

*Strategies*

- Consider user fee options such as congestion or value pricing, where the fee could be based on how busy the facility is at that time, or a vehicle miles traveled fee, where drivers are charged for the distance they travel on a particular route.
- Develop additional real-time traveler information and traffic management systems that would provide information about transit options and wait times, destinations, and alternative routes. For example, this could be accomplished with changeable message signs on transportation facilities and at transit stops, on-board vehicle communication systems or wireless communication devices.
- Incorporate design improvements into transportation facilities that will increase capacity and accessibility, such as connecting transit to airports, passing lanes, intersection improvements, or HOV connectors between freeways.
- Provide transit options with better connections to customer destinations.
- Provide viable convenient transportation options that are responsive to traveler demands, such as time and location. Examples could include increasing transit routes or passenger capacity when the demand for service is expected to exceed capacity, or shuttles, or car sharing programs.

## MAINTAIN CALIFORNIA'S ECONOMIC PROSPERITY

California's transportation system is vital to our economic prosperity and quality of life. California has the world's fifth largest economy, and economic growth is connected to our ability to transport people and goods into and across California, as well as to other states and countries. Enormous quantities of goods and services produced and consumed in all 50 states reach our transportation system due to our location on the Pacific Rim and a complex network of highways, seaports, airports, railways, distribution centers, inter-modal facilities and border crossings.

*Background*

California's ports at Los Angeles, Long Beach, and Oakland; major airports at Los Angeles, San Francisco, Ontario, and Oakland; trade corridor highways and land ports of entry represent the largest trade transportation complex in the United States. Transportation infrastructure improves California's productivity and competitiveness, and contributes to economic growth, international trade, and tourism. California's gross state product has grown 26 percent in the last five years to $1.3 trillion annually. International and domestic trade has also increased in the same period 26 percent to $802 billion annually. One in 7 jobs in the state is linked to the movement of international commerce.

California is the nation's leading global gateway for Pacific Rim trade. It is estimated that 37 percent of the value of all U.S. - foreign trade, an amount over $200 billion, passes through California's ports. The Ports of Los Angeles and Long Beach moved over $100 million tons of goods valued at $145 billion in 1999. More than one million jobs are tied to these ports. The estimated annual value of trade at the California-Mexico ports of entry exceeds $29 billion, and the two million trucks crossing the border in 2001 are expected to double in the next 20 years.

Air cargo is the fastest growing segment of freight transportation. Total air cargo demand for California airports is about five million tons annually. Air cargo demand is expected to increase 6.1 percent up to 2009, and slightly decrease to a rate of 5.3 percent between 2009 – 2019.

The second fastest growing segment of freight transportation is rail. Railroads carried approximately 55.2 million tons of freight traffic on California's 6,300 miles of rail tracks during 1999. In 1998, 1.1 billion tons of manufactured freight was transported into and out of California by truck and one out of every 12 workers was employed in trucking related occupations.

Travel and tourism spending in California exceeded $75 billion in 2000, and included 55 million visitors from outside the state and 238 million trips by Californians. In 1999, Los Angeles International Airport alone generated $61 billion in regional economic activity in

passenger and freight transportation. This airport is the third busiest passenger and cargo airport in the world, and represents the world's eleventh largest economy.

Goods movement volume by truck, rail, ship, and aircraft, is projected to increase 56 percent between 1996-2016. Failure to invest in the system could result in economic decline, rising unemployment, environmental degradation and the loss of our quality of life.

*Issues*

- Congestion delays threaten the efficiency of moving goods and people on our transportation system by reducing productivity, profits, and competitiveness. Quick transportation of goods has become more important to businesses, with the increasing amount of goods and products being delivered through express services or just before they are used by manufacturers.
- Economic growth is threatened when businesses choose to avoid locating in regions where quality of life is affected by traffic congestion and where there are few transportation options for workers to get to their jobs.
- State and federal funds available for goods movement projects are limited. For example, the state cannot use gas tax revenue for freight rail that could reduce highway congestion.
- The popularity of state and national parks, along with a lack of congestion management strategies, has decreased environmental quality near these popular resources.

*Strategies*

- Encourage collaboration among labor unions, port, truck and rail operators to expand operational hours for seaports, warehousing and other distributing facility operations to balance the flow of truck traffic and reduce congestion.
- Construct dedicated truck lanes along major trucking routes.
- Enhance transit options to tourist and recreation areas.

## MAXIMIZE EFFICIENT FUEL AND ENERGY USAGE

In California, the transportation sector uses 75 percent of petroleum-based fuels or half of the total amount of energy used in California. Californians spend $4 million an hour on transportation energy. Even with California refineries working near capacity, over half of the petroleum fuel used in California is imported. Given the distance to transport petroleum to California, fuel prices may be subject to large price increases when there is a decrease in supply. Given changes in overseas fuel supplies and the adverse environmental impacts of petroleum based fuel emissions, the California Air Resources Board has taken actions to promote and increase the usage of fuel efficient and alternative fuel vehicles. Alternative transportation energy sources include electricity, fuel cells, natural gas, methanol, and ethanol.

More than 95 percent of Californians live in areas that consistently do not meet government health-based air quality standards. Under federal requirements, if air quality conformity is not met as directed, California could lose billions of dollars in federal funding and could be prohibited from constructing any capacity enhancing transportation projects. As motor vehicle emissions heavily contribute to air pollution, decreasing vehicle emissions is critical to California.

*Background*

Considering transportation energy consumption and emissions, energy efficiency in the transportation sector would have significant economic and environmental benefits. Transportation energy demand is primarily related to the fuel efficiency of vehicles, the number of vehicles operated, and the amount of vehicle travel. Given current fuel usage, and expected increases in population and vehicle travel, California's annual vehicle fuel consumption is projected to increase by 8.25 billion gallons, or 48 percent between 2000 and 2020.

As an essential strategy to improving California air quality, the California Air Resources Board required that major automobile companies make cleaner vehicles, including zero-emission vehicles (ZEV), which produce no tailpipe or evaporative emissions. By 2003, 10 percent of the vehicles sold by the major automakers in California must be ZEV or eligible for partial ZEV credits – such as hybrid electric vehicles which combine another power source with rechargeable electric batteries, or gasoline powered vehicles designated as Super Low Emissions Vehicles (SULEVs). ZEVs have already been produced by major automakers. Currently, there are over two thousand ZEVs operating in California.

*Issues*

- Approximately 50 percent of smog-forming pollutants come from gasoline and diesel powered-vehicles. More fuel-efficient vehicles will reduce adverse public health and environmental impacts of transportation activities.

- Overall average fuel economy of the vehicles in California is likely to decline, due to the increased popularity of light trucks, minivans and sport utility vehicles. In 1999, these vehicles comprised 37 percent of the vehicles in California, and are projected to increase to 46 percent of the total in 2020.
- While major automobile manufacturers are required to produce ZEVs, currently they are in limited supply. There are waiting lists for vehicles, and some are only available with lease options and are not available to purchase, or are available as fleet vehicles, but are not available to individuals.
- The initial purchase price of an alternative fuel vehicle is currently more than the price of a comparable, gasoline powered vehicle.
- Some people are resistant to using alternative fuel vehicles due to the possibility of a shorter driving distance before refueling is required, and the lack of available and convenient refueling or charging sites.
- With the current gasoline tax structure, as alternative fuel vehicle usage increases, reduced gasoline consumption results in reduced transportation revenue.

*Strategies*

- Create fiscal disincentives, at the purchase or registration points, for high fuel consumption vehicles.
- Create incentives to build consumer demand and manufacturer supply for more energy efficient vehicles.
- Dramatically increase the amount of all types of vehicles fully or partially operating with alternative fuels.
- Increase fueling infrastructure for alternative fuel vehicles.
- Continue public and private research and development of alternative fuel vehicles.
- Provide an economic base for industry growth in alternative powered vehicles. For example, the California Department of Transportation is reducing its mobile equipment emissions by maximizing the use of alternative fuel vehicles, and given the size of its fleet, helping to lower the future cost of producing these vehicles.

## PROVIDE VIABLE TRANSPORTATION CHOICES

Providing transportation options in California will become increasingly important, as our population growth places more demand upon existing transportation facilities. Having "viable" alternatives to the automobile will be critical to serving California's changing population, as well as reducing congestion and maintaining environmental quality. Those alternatives must be safe, accessible, affordable, timely, of high quality, and interconnected in order for them to compete with the private automobile and provide efficient mobility of people, goods and services.

*Background*

While vehicle ownership and miles driven continue to increase, there is public concern about the effects of automobile reliance and overwhelming support for other transportation options. California transit ridership on nearly all transit systems experienced double-digit growth between 1995 and 2000. There is also a growing awareness that building roads solely to accommodate more automobiles will not solve California's long-term transportation needs. In the U.S., 25 percent of trips are less than one mile long, and 75 percent of these trips are vehicle trips. Approximately, 25 percent of all trips are work related.

Over the next 20 years, California's population groups under age 20 and over age 65 are each expected to increase by 3 million people. Californians without private vehicles are more likely to include the elderly, the disabled, people with lower incomes, and young people. Many Californians without private vehicles are dependent on walking, bicycling, informal ride sharing arrangements, transit, para-transit, or taxis, if available.

The Transportation Equity Act for the 21st Century allows funding for multiple forms of transportation including public transit, pedestrian, bicycle, and rail options as well as ride sharing. The availability of diversified transportation options improves service to all segments of California's population.

*Issues*

- The lack of reliable, affordable and efficient transportation options limits a person's ability to search for or keep a job, access goods and services, get to school, see a doctor, and visit friends and relatives.
- The lack of transportation options disproportionately isolates the elderly and the disabled populations.
- There are fewer transportation options in rural communities due to their size and population dispersion, in comparison to urban areas.
- Transit service hours and routes may be limited, and many locations in metropolitan areas cannot be accessed by public transit or are served infrequently, or require multiple transfers and long travel times.

- Often, transit service is fragmented with separate service districts that lack coordination for optimal benefit.
- Current land use development and zoning often place housing, employment and service centers out of reasonable walking or bicycling distances from each other and away from transit options.
- Automobile usage continues to increase faster than the rate of population growth and is projected to increase traffic congestion considerably.
- Many people do not consider transit a viable transportation choice due to safety, cleanliness, comfort, reliability, timeliness and affordability issues.

*Strategies*

- Continue to develop and fund efficient, easy-to-use, innovative, and effective forms of transportation to serve California's diverse population and travel patterns. For example, car-sharing services where vehicles can be rented for errands or short trips, avoiding the upkeep and maintenance costs of car ownership.
- Conduct research to determine what the public would like from transit options, and what types of options should be designed.
- Develop close collaboration among transit operators and social service agencies responsible for planning the complex mix of transit and para-transit services to better serve clients.
- Use flexible federal, state and local funding mechanisms to provide transportation choices that are more competitive with the private automobile.
- Examine the development of a statewide high-speed rail system.

## PROVIDE AN AFFORDABLE, ACCESSIBLE TRANSPORTATION SYSTEM THAT SERVES ALL CALIFORNIANS

Transportation equity means having an affordable, accessible transportation system that serves all Californians. Transit equity addresses the needs of traditionally under-served groups, including rural, low-income, disabled, minority, and senior populations. Transportation is a key component in addressing unemployment, equal opportunity goals, and ensuring equal access to education, employment, health care, and other essential services. The burden of poor transit alternatives falls most heavily on Californians who cannot easily use or afford automobile travel.

*Background*

Despite broad public support for mass transit, the automobile is the mode of choice of the vast majority of travelers. The average American family spends 1/5 of its income – or about $6,000 a year – for each car that it owns and operates. Still, many people without regular access to cars depend on public transit as their main mode of transportation. These "transit dependent" populations are disproportionately low-income, minorities, the elderly, children under 18, and the disabled.

Title VI of the Civil Rights Act of 1964 prohibits discriminatory practices and impacts in programs receiving federal funds. Title VI expands the nondiscrimination mandate to federally funded entities and activities. Executive Order 12898 restates the provisions found in Title VI and is an attempt to address environmental injustice within existing federal laws and regulations.

*Issues*

- Inadequate access to affordable and dependable transportation limits the ability of people to travel to jobs, medical services, grocery stores, family and social activities, and other necessities of life.
- Greater distances between destinations, a lack of transportation choices, and a lack of easy transit connections increase the need to own and operate a car. Low-density developments often lack frequent continuous bus service, useable sidewalks, or safe bike lanes.
- The average American household devotes 18 cents out of every dollar to transportation. Poorer families spend almost twice as much of their income on transportation as do upper-income families, 27 percent versus 14 percent respectively.
- A recent study noted that residents of the North Beach neighborhood in San Francisco spend an average of $3,800 per year on automobile costs, while residents of the suburban city of Livermore spend an average of $6,300 per year. Places with few transportation choices have higher transportation expenses.
- Transit dependent users utilize most public transit systems. However, less attention and fewer resources are allocated to improve well-patronized transit

service in older, low-income, densely developed central-city areas. Transit fares, on a per mile basis, tend to be lower on commuter and suburban transit systems than on central city bus systems in order to attract and retain commuters. For example, the base local fare on the Los Angeles central city system is $1.35, compared to $.50 on the Santa Monica system and $.60 on the Culver City system.

- Peak demand travel schedules do not serve lower paid service employees, who work non-traditional shifts or are traveling the opposite direction of rush-hour traffic.
- Rural populations frequently do not have as many transportation alternatives as people in urban areas.
- By 2020, the number of Californians over age 65 will almost double to over 6 million people. While California's population under 18 is expected to increase by 37 percent, totaling 13.7 million people. Transportation options should serve the needs of these growing populations.
- The disabled population has a difficult time in securing adequate public transportation services to meet their needs. Mobility impaired persons are sometimes left to wait by the side of the road because wheelchair lifts are not in working order, or because drivers simply do not want to stop to pick them up. Blind persons may miss their destinations when transit drivers fail to announce stops. Due to the need to circulate through neighborhoods to pick up other passengers, para-transit riders can be subjected to excessively long delays and trip lengths to reach their destination. It can also be difficult for those who are dependent on para-transit to travel spontaneously, as most par-transit operators require 24 hours notice to schedule a trip.
- Transit accessibility to jobs has become even more significant as welfare recipients are now required to participate in specified work activities. This is a significant issue for welfare recipients in rural areas, where there are fewer transit services.

*Strategies*

- Encourage regional and inter-regional decision-making that considers the needs of people who rely on transit.
- Balance geographic demands (urban, rural, suburban) for new transportation services with the benefits of serving these populations, such as transit dependent populations.

## ENHANCE THE ENVIRONMENT AND REFLECT COMMUNITY VALUES

Transportation impacts on the environment are likely to increase with our growing population and mobility demands. Air, water, habitat, open space, noise, agricultural and historical lands and our neighborhoods are all likely to be impacted. To minimize the potential of harmful impacts, it is critical that our decisions balance the interests of the increasing amounts of people and goods moving on our transportation system, community design, and the preservation and quality of our natural resources.

*Background*

Current development patterns are characterized by relatively low density and dispersed distribution of housing, services, facilities and jobs, resulting in longer commutes and increased emissions that reduce air quality. Many neighborhoods are designed to use the private automobile to get to jobs, necessary amenities and entertainment, and discourage alternative modes of transportation such as transit, bicycling and walking. This creates additional traffic and harmful fuel emissions that reduce air quality. However, the absence of transportation options is only a part of this situation. Disinvestments in urban centers in many cities and older suburbs allow prior investments to deteriorate, impair economic growth and encourage those who can to move further out of the urban core. Accommodating this resulting traffic often means building added capacity on the roads, which may have other environmental consequences such as loss of open space and agricultural land, damage or destruction of cultural resources, or reducing the natural habitat space of animals and plants.

- Both urban and rural areas will be affected by California's population growth, which is expected to increase from 34 million people to 45 million people by 2020. The population increase will place pressure on our land, natural resources, quality of life, schools, infrastructure and our transportation options.
- California's natural, cultural, and biological resources are essential for the environmental and economic health of the state. It is estimated that 95 percent of California's wetlands have vanished over the last two centuries, 32 percent of California's native plant species are currently at risk, 16 percent of the oak woodlands in the Sierra Nevada foothills and 12 percent of the Central Valley's prime farmland have been paved over.
- Contaminated runoff, from paved surfaces including highways, streets, roads, and parking lots, is increasingly responsible for polluting waterways. Large paved surfaces also can create barriers between animal habitats.
- Many neighborhoods do not include safe places for walking and biking, community amenities, and jobs that are close to housing and transportation choices.
- Loss of wetlands and increased impermeable surfaces increases the danger of flooding.
- In rural communities where state highways serve as "main streets", emphasis has been on accommodating a high level of vehicular traffic. Often this emphasis

detracts from historic old towns and decreases the safety for walkers, bicyclists, and local traffic. Aesthetics play an important role in drawing people to local businesses in these communities.

The Transportation Equity Act for the 21st Century (TEA 21) addresses protecting resources and enhancing communities and the natural environment as we provide transportation. In addition, California law requires specific consideration of environmental quality issues when new development is planned. Several programs have been started that promote "livable communities" which encourage balanced land-use and transportation choices such as walking, bicycling, driving, and using public transportation to access schools, services, recreation and jobs. Providing these interconnected transportation choices can reduce commute time, vehicle miles driven and air pollution, while preserving natural and cultural resources, and open spaces.

*Issues*

There are many barriers to, and few incentives for, regional integration of transportation, land use, housing, and economic development, which would result in better land use and access to transportation options. Some of these barriers include:

- Attitudes and beliefs can prevent the implementation of sustainable, livable and smart development. For example, assuming that development accommodating growth must be harmful to environmental quality, can hinder an integrated approach to planning.
- Legal, regulatory, or financing barriers such as zoning and building codes that prohibit mixed land use, which can make walking to shops or services easier.
- Economic and fiscal incentives, or disincentives, often promote local land use decisions that seek to maximize developments that will increase the resulting tax revenue.
- The planning process is fragmented among multiple state, local, tribal, and regulatory agencies with various specific responsibilities. Currently, many plans do not have to be coordinated in the development process and may not consider regional issues.
- The public may value their individual decisions more than the resulting cumulative environmental or community impacts.

*Strategies*

- Consider regional sales tax revenue sharing.
- Re-examine design standards for highways that serve as main streets and for integrating safe pedestrian and bicycle facilities within the transportation system.
- Provide incentives for brown-field development.
- Advocate for revitalization of already developed areas through measures that attract new businesses and housing, reduce crime and improve schools.

## CROSSCUTTING STRATEGIES

- Educate local, tribal, and regional planners, and users of the transportation system about transportation issues including: safety, environmental impacts, energy, and land-use relationships.
- Encourage collaborative regional and inter-regional decision-making to develop policies and fiscal incentives to enhance land-use planning, resulting in a better balance of housing and employment center locations.
- Involve members of all communities in the transportation planning process.
- Increase coordination among public, private and not-for-profit agencies involved in mobility, and transportation research and technology to provide innovative transportation options.
- Support more flexible transportation funding mechanisms, which could be used for multi-modal options, maintenance and operational needs of the transportation system or advanced technology systems.
- Work with Congress to promote consideration of enhanced federal funding based upon amount of goods and value moved through a state's transportation system, and the usage of clean and alternative fuel vehicles.
- Continue to develop and deploy intelligent transportation technology systems to better manage and utilize existing capacity, reduce congestion and fuel consumption, enhance public safety, and increase the availability of real-time traveler information.
- Consider all transportation modes when determining the need for new or expanded transportation facilities.
- Improve ground access to seaports, airports, rail yards, and freight inter-modal transfer facilities.
- Encourage ride sharing, walking, biking, transit usage, teleconferencing, and telecommuting to reduce fuel consumption and the number of vehicle trips made.
- Upgrade and develop pedestrian infrastructure, and provide safe pedestrian and bicycle routes between transit stops, employment centers, and housing.